



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

*Ship Alone
May 12*

D3391-025
Job Sheet 175483



Part No: D3391-025

Job Qty: 1 ea

Part Name: Aft Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/5/18

Job Tracking No:

Due Date: 5/7/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV J SHEETS 9,10,11 IPP Rev B 06-02-07 ECN773 dwg rev. D EC IPP Rev: C 06-03-28 Update
Manuf. Instructions JLM IPP rev D 07.03.20 revF dwg EC IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified
by: DD IPP Rev: F 07-11-13 ECN 1056 DD verified by: EC IPP Rev: G 08-09-10 revH as per dwg DD verified
by: EC IPP Rev: H 11.11.14 AS PER REV. I DD verified by: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		5/4/18	0.00	0.00	Start Up Crosstubes		DAS
100	Mori Seiki	1 pcs		5/4/18	2.49	4.17	Mori Seiki TL-40		56
110	QC	1 pcs		5/4/18	0.00	0.00	QC2-1		DAS 9-89
112	QC	1 pcs		5/4/18	0.00	0.00	QC5		38
120	CNC Vertical Machining	1 pcs		5/5/18	0.00	2.63	HAAS1-3		9-89
130	QC	1 pcs		5/5/18	0.00	0.00	QC2 Machining-2		MAY 18/05/18
140	QC	1 pcs		5/5/18	0.00	0.00	QC8 Machining-2		MAY 18/05/18
150	Skidtubes	1 pcs		5/5/18	0.00	1.03	Skidtubes-4		MAY 18/05/18
160	CNC Bend Skidtubes	1 pcs		5/5/18	0.00	1.33	CNC Bend Skidtube		MAY 18/05/18
170	QC	1 pcs		5/5/18	0.00	0.00	QC5		DE
180	Skidtubes	1 pcs		5/5/18	0.00	1.03	Skidtubes-4		MAY 18/05/18
190	QC	1 pcs		5/5/18	0.00	0.00	QC5		DE
200	HandFinish	1 pcs		5/5/18	0.00	0.58	HandFinish1		BEB 18-05-28
210	QC	1 pcs		5/5/18	0.00	0.00	QC7-2		DE
220	Skidtubes	1 pcs		5/5/18	0.00	1.41	Skidtubes-4		MAY 18/05/18
230	QC	1 pcs		5/5/18	0.00	0.00	QC5		DE 18-5-29
235	HandFinish	1 pcs		5/5/18	0.00	0.58	HandFinish2		BEB 18-05-28
240	SprayPaint	1 pcs		5/5/18	0.00	0.25	Spray Paint		DE 18-5-29
242	Outsource	1 pcs		5/5/18			ATE003-VC		PD-40046 COX MAY 3 0 2018
250	QC	1 pcs		5/5/18	0.00	0.00	QC14		MAY 18-5-31
260	HandFinish	1 pcs		5/7/18	0.00	0.58	HandFinish4		MAY 18-5-31
270	QC	1 pcs		5/7/18	0.00	0.00	QC5		38
280	Packaging	1 pcs		5/7/18	0.00	0.00	Packaging3-1		DAS 9-89
290	QC21-SA	1 Ea		5/7/18	0.00	0.00	QC21		21 MAY 3 1 2018

Part Op 100 - Turn as per Folio FA599 Rev: ____ & Dwg D3391 Rev: ____ ***ensure steady rest is turning true*** REMOVE

Descriptions: STEADY REST AND MACHINIG MARKS****

120 - 1-Machine as per Folio FA 599 Rev: ____ & Dwg D3391 Rev: ____

140 - ***INSPECT INSIDE BORE***

150 - 1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

160 - Form as per Dwg D3391 Using Bend Prog 3391025

180 - 1-Open Aft cap pilot hole to .208" as per Dwg D3391 2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only. 3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 Wearplate Jig . ****Do

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS																							
Part No. _____		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																				
NCR No. _____		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																				
		Use-as-Is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																				
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐																					
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval _____																				
Description Work Order Deviation				Disposition																							
				Completed By _____																							
				Lead hand / Supervisor Approval Verification _____																							
				QC / QA Coordinator Approval _____																							
 Container No: S063148  Part: D3391 - 025 Job No: 175483 Serial No/Batch: S063148 Revision: _____ Inspector: _____ Date: 04/20/18 1270 Aberdeen Street Newkensbury, ON K6A 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartero.com www.darterospace.com				FAULT CATEGORY <table border="0"> <tr> <td>☐ Power Loss/ Surge</td> <td>☐ Positioned Wrong</td> </tr> <tr> <td>☐ Folio/Program</td> <td>☐ Outside Dimensions</td> </tr> <tr> <td>☐ Grain</td> <td>☐ Over/Under tolerance</td> </tr> <tr> <td>☐ Weld</td> <td>☐ Part Incorrect</td> </tr> <tr> <td>☐ Wrong Stock Pulled</td> <td>☐ Part Lost/Missing</td> </tr> <tr> <td>☐ Out of Sequence</td> <td>☐ Part Moved</td> </tr> <tr> <td>☐ Off-set</td> <td>☐ Drawing</td> </tr> <tr> <td>☐ Mislabeled</td> <td>☐ Finish</td> </tr> <tr> <td>☐ Fit/Function</td> <td>☐ Misread</td> </tr> <tr> <td>☐ Misaligned/off center</td> <td>☐ Turning Sequence</td> </tr> </table>				☐ Power Loss/ Surge	☐ Positioned Wrong	☐ Folio/Program	☐ Outside Dimensions	☐ Grain	☐ Over/Under tolerance	☐ Weld	☐ Part Incorrect	☐ Wrong Stock Pulled	☐ Part Lost/Missing	☐ Out of Sequence	☐ Part Moved	☐ Off-set	☐ Drawing	☐ Mislabeled	☐ Finish	☐ Fit/Function	☐ Misread	☐ Misaligned/off center	☐ Turning Sequence
☐ Power Loss/ Surge	☐ Positioned Wrong																										
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☐ Mislabeled	☐ Finish																										
☐ Fit/Function	☐ Misread																										
☐ Misaligned/off center	☐ Turning Sequence																										
Misidentified ☐		Past Due ☐		OTHER : _____																							

Not Open To Finished Size***** 4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes. 5-Open wearplate holes to 0.297" and c'bore as per dwg D3391 6-Open up all float bag holes to 0.328" and c'sink as per Dwg D3391. 8- Scribe batch # on fwd end

220 - 1- Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: 137073 exp. date: 18-08 cure time 12hrs as per QSI0015 2- Grind crossbolts flush 3- Back drill using #9 drill 4- Touchup Magnabond 5- Deburr

235 - AND REALODINE AS PER PAR09-043

240 - PRIME AS PER DWG AND QSI005 4.2.1.3.3

260 - 1-Install inserts as per Dwg D3391 2-Install Aft Cap as per Dwg D3391 A/ R Sikaflex-241/-291 M138781 Sikaflex expiry date: 18/11 3- INSTALL WEARPLATES AS PER DWG

290 - 5- Detail DD, open (5) forward wearplate holes 0.375", then use DT10247 and drill holes for nutplates and c'sink. 6-Open wearplate holes to 0.297" and c'bore as per dwg D3391. ***SIX FARTHEST AFT HOLES ONLY*** 7-Open up all float bag holes to 0.328" and c'sink as per Dwg D3391. 8-Deburr 9- Scribe batch # on fwd end

003555

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6014-090	Aluminum Extrusion	1 Ea (1 ea)	90-Start up Operation	
D3670-4-200	Bushing	4 Ea (4 ea)	220-Skiddtubes	<u>5021404</u>
ALS4-1032-130	Rivnut	8 Ea (8 ea)	260-HandFinish	<u>5008959</u>
ALS4-1032-225	Rivnut	4 Ea (4 ea)	260-HandFinish	<u>5058139</u>
AN3C4A	Bolt	6 Ea (6 ea)	260-HandFinish	<u>5041114</u>
AN3C5A	Bolt	4 Ea (4 ea)	260-HandFinish	<u>5019396</u>
D2646	Aft Cap	1 Ea (1 ea)	260-HandFinish	<u>F165010</u>
D3672-1	Washer, Phenolic	2 Ea (2 ea)	260-HandFinish	<u>F150074</u>
D4095-047	Wearpad Aft	1 Ea (1 ea)	260-HandFinish	<u>5025094</u>
D4095-049	Wearpad Aft	1 Ea (1 ea)	260-HandFinish	<u>5018291</u>
MS20601-AD4W3	Rivet	12 Ea (12 ea)	260-HandFinish	<u>5066193-1</u>
MS20601-AD4W7	Rivet	8 Ea (8 ea)	260-HandFinish	<u>M137140</u>
MS21075L5	Nut Plate	10 Ea (10 ea)	260-HandFinish	<u>5004858</u>
NAS1149C0332R	Washer	10 Ea (10 ea)	260-HandFinish	<u>5056497</u>

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D6014-090	1	27	0
220-Skiddtubes	D3670-4-200	4	48	0
260-HandFinish	ALS4-1032-130	8	14,829	0
	ALS4-1032-225	4	4,627	0
	AN3C4A	6	2,155	0
	AN3C5A	4	2,206	0
	D2646	1	100	0
	D3672-1	2	1,071	0
	D4095-047	1	11	0
	D4095-049	1	38	0
	MS20601-AD4W3	12	249	0
	MS20601-AD4W7	8	185	0
	MS21075L5	10	174	0
	NAS1149C0332R	10	7,070	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor Approval Verification
					QC / QA Coordinator Approval
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

DART AEROSPACE LTD		Work Order: 175483
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391 Rev: J		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓		TAPE	
3.500	+/-0.010	3.5025	✓		VERNOB	
Ø3.200	+/-0.010	3.201	✓			
Ø3.750	+/-0.010	3.750	✓			
30° x 0.060 chamfer	+/-0.010	.070	✓		↓	
88.93	+/-0.030	88.925	✓		TAPE	

Measured by: 9-89	Date: 2018-04-19
Audited by:	Date:

HAAS Section						
1.526	+0.000/-0.030	1.516	✓			
7.500	+/-0.010	7.508	✓			
27.750	+/-0.010	27.750	✓			
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.303	✓			
0.200	+/-0.010	.200/.210	✓			vibration on slot
3.520	+/-0.010	3.524	✓			
0.687	+0.010/-0.000	.692	✓			
R0.062	+/-0.010	R0.062	✓			
Ø0.484	+0.005/-0.001	Ø.484	✓			

Measured by: Mami Noto	Date: 18 May 2018
Audited by: [Signature]	Date: 18/05/24

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	
I	12.05.15	Dwg Rev updated	KJ	
J	12.05.23	Dimension updated	KJ	
K	12.10.15	88.93 dimension removed	KJ	
L	12.11.28	88.93 dimension added	KJ	
M	16.06.23	Dimensions updated per Rev J	KJ	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					

D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
2	2	D3591-1	BUSHING
4		D3672-3	WASHER
1	1	D4095-041	WEARSHOE
1	1	D4095-043	WEARSHOE
1	1	D4095-045	WEARSHOE
1	1	D4095-047	WEARPAD
1	1	D4095-049	WEARPAD
1	1	D4095-051	WEARSHOE
24	24	AN3C4A	BOLT
4	4	AN3C8A	BOLT
10	10	AN5C7A	BOLT
28	28	NAS1149C0332R	WASHER
10	10	NAS1149C0532R	WASHER
4		MS27039C4-12	SCREW
4		NAS1149C0432R	WASHER

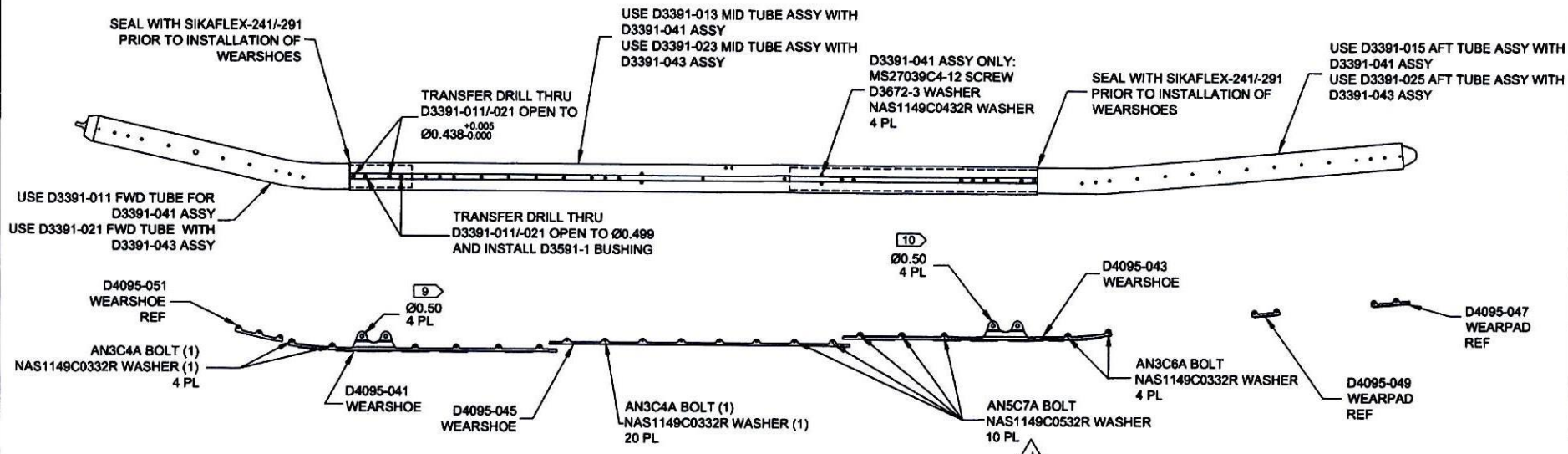


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WITHOUT NOTICE
WORK ORDER

NO. 175483 MJS
180408

J	INCORPORATED DSI 9733, REFORMAT DRAWING CHANGED CBORE DEPTH (ZN D2-8, D2-9), REVISED TABLES, REPLACED POWDER COAT WITH PAINT	ML	16.01.14
I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A8-4, ZN B8-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AEELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C8 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C8 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9384 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AEELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	DP	D3391	SHEET 1 OF 11
APPROVED	DP	TITLE	SCALE
DE APPR.	DP	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

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2016-04-28
ECN 16-96

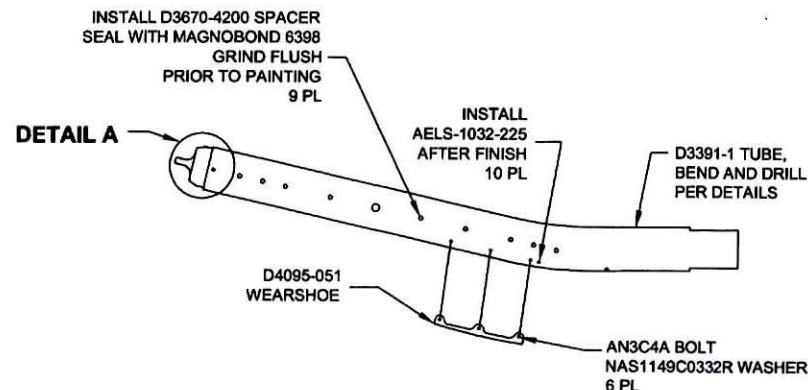


D3391-041/-043 ASSY

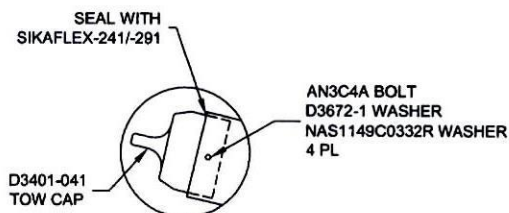
- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME PER DART QSI 005 4.2.1.3.3
PAINT WHITE PER DART QSI 005 4.2.2.4
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.6
 - 7) WEIGHT: N/A
 - 8) COAT ALL EXPOSED FASTENERS WITH LPS "LPS PROCYON"
 - 9) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
 - 10) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

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2016-04-28

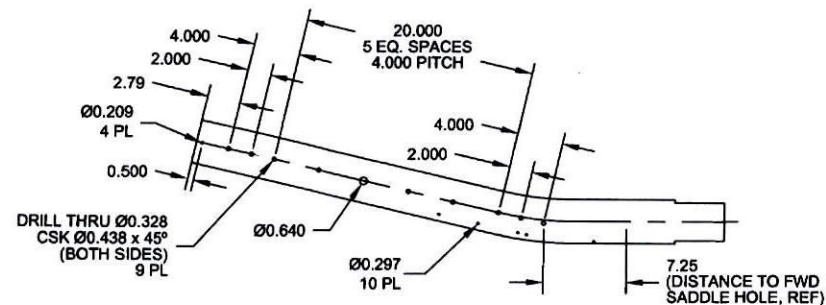
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	JP	D3391	SHEET 2 OF 11
APPROVED	DA	TITLE	SCALE
DE APPR.	DA	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



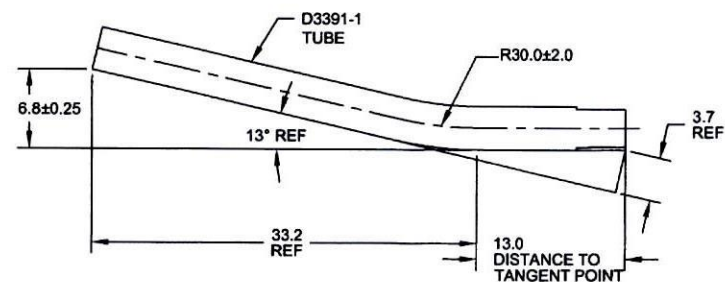
D3391-011 FWD TUBE ASSEMBLY
ASSEMBLY DETAIL



DETAIL A
SCALE 2X



D3391-011 DRILLING DETAIL



D3391-011 BENDING DETAIL
(MAKE FROM D3391-1)

D3391-011 FWD TUBE ASSEMBLY PARTS LIST

QTY -011	PART NUMBER	DESCRIPTION
X	D3391-011	FWD TUBE ASSEMBLY
1	D3391-1	TUBE
1	D3401-041	TOW CAP
9	D3670-4200	SPACER
4	D3672-1	WASHER
1	D4095-051	WEARSHOE
10	AELS-1032-225	INSERT
10	AN3C4A	BOLT
10	NAS1149C0332R	WASHER

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APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL

DETAIL B

D4095-051
WEARSHOE

INSTALL
AELS-1032-225
AFTER FINISH
10 PL

AN3C4A BOLT
NAS1149C0332R WASHER
6 PL

D3391-021 FWD TUBE ASSEMBLY ASSEMBLY DETAIL

SEAL WITH
SIKAFLEX-241/-291

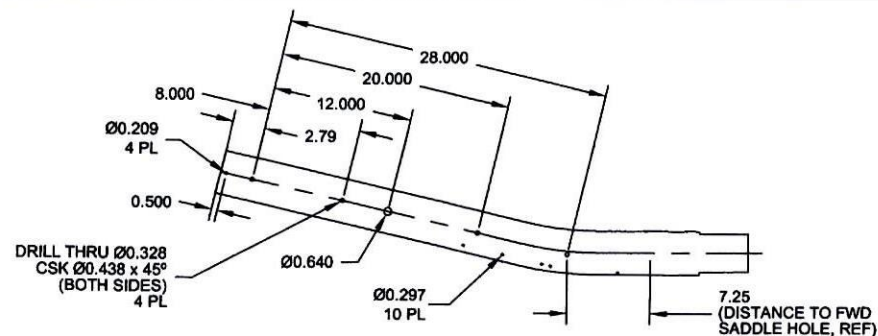
D3401-041
TOW CAP

AN3C4A BOLT
D3672-1 WASHER
NAS1149C0332R WASHER
4 PL

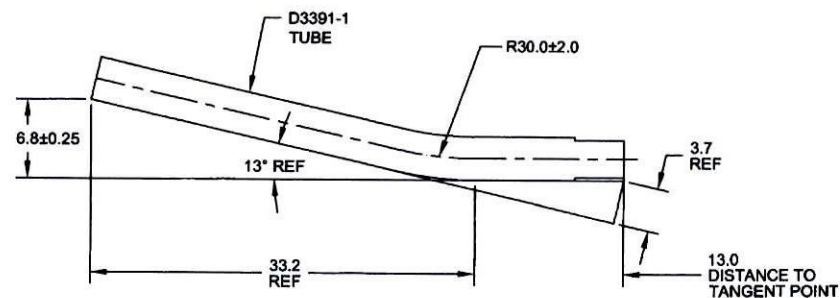
DETAIL B SCALE 2X

D3391-021 FWD TUBE ASSEMBLY PARTS LIST

QTY -021	PART NUMBER	DESCRIPTION
X	D3391-021	FWD TUBE ASSEMBLY
1	D3391-1	TUBE
1	D3401-041	TOW CAP
4	D3670-4200	SPACER
4	D3672-1	WASHER
1	D4095-051	WEARSHOE
10	AELS-1032-225	INSERT
10	AN3C4A	BOLT
10	NAS1149C0332R	WASHER



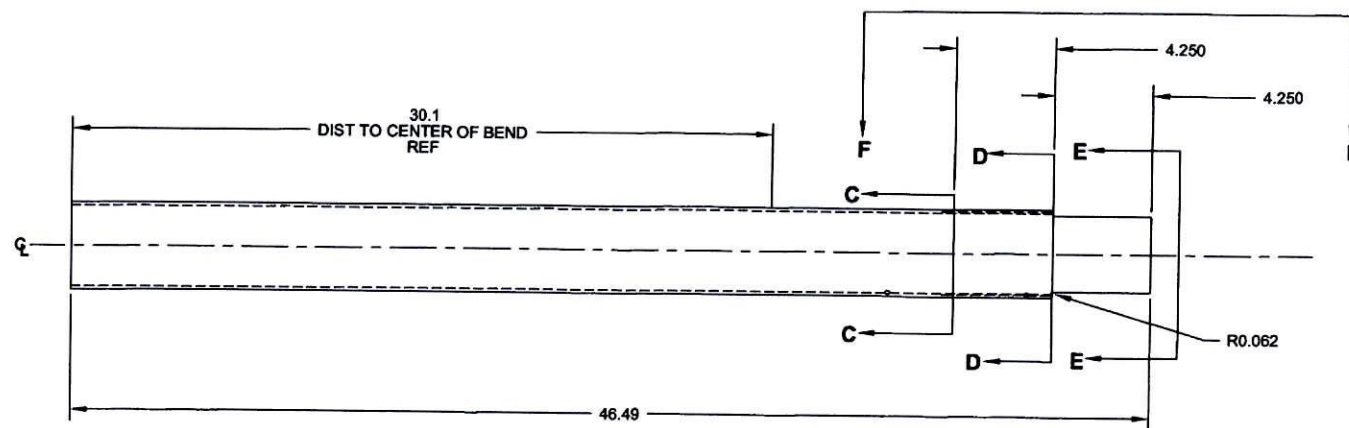
D3391-021 DRILLING DETAIL



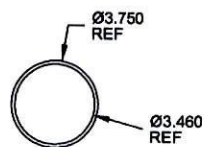
D3391-021 BENDING DETAIL (MAKE FROM D3391-1)

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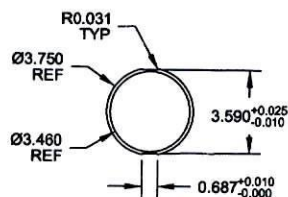
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DE APPR.	DE	412 FLOAT SKIDTUBE	NTS
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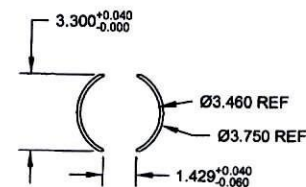
D3391-1 TUBE
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



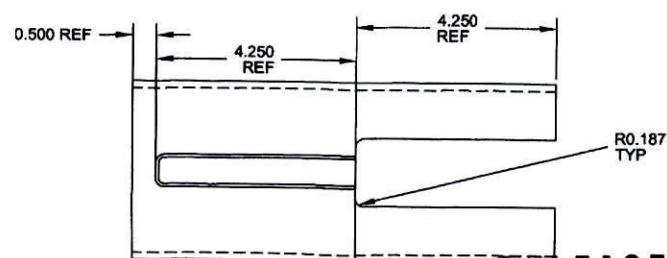
SECTION C-C



SECTION D-D



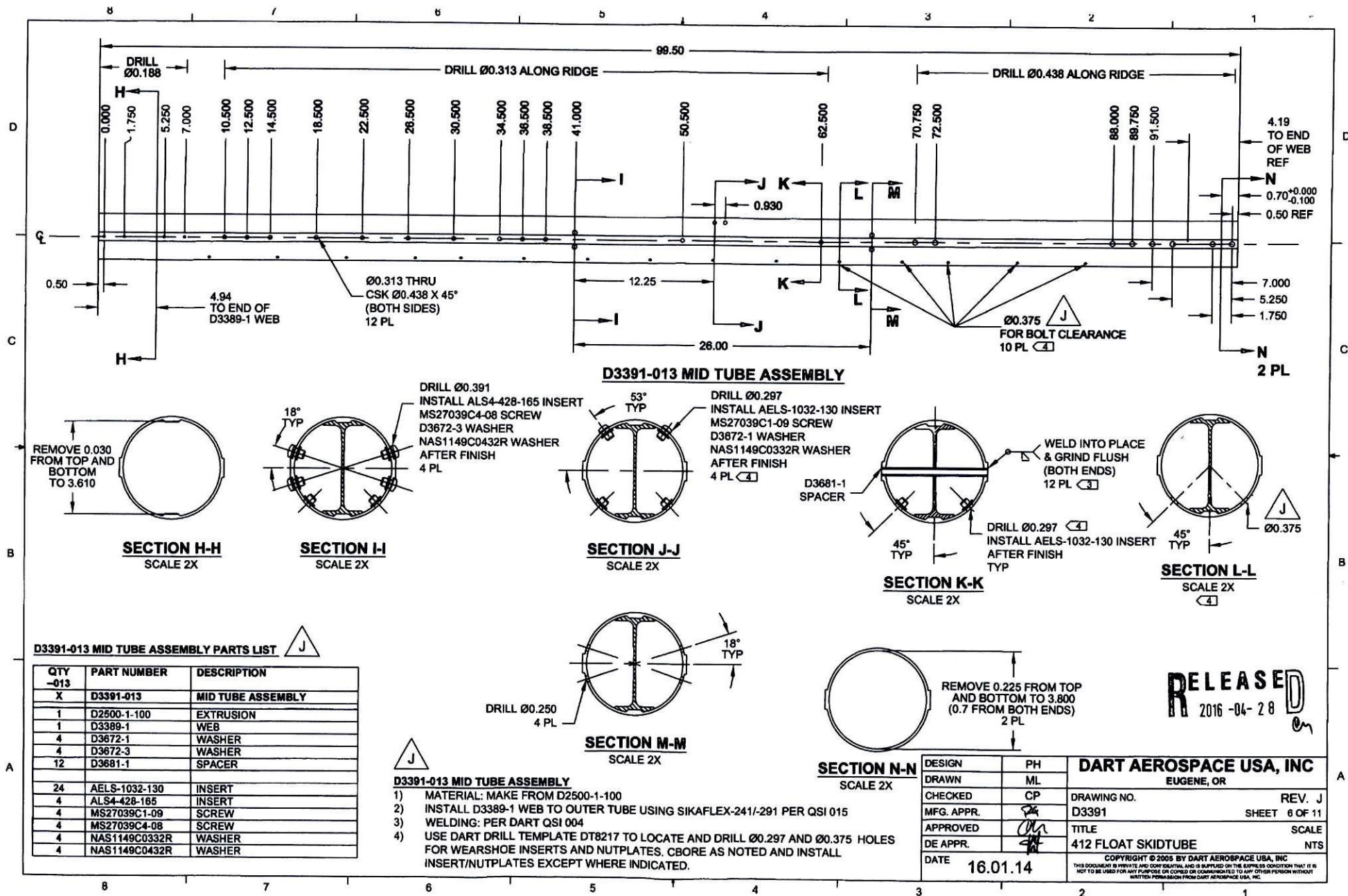
SECTION E-E

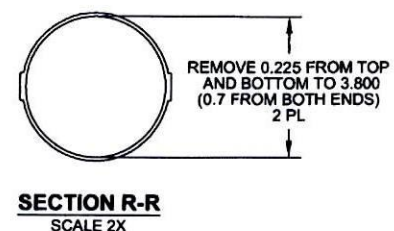
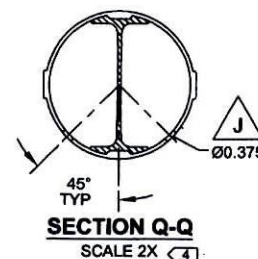
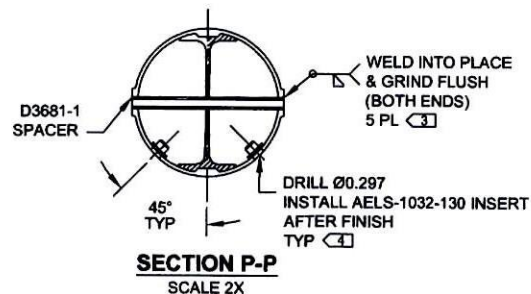
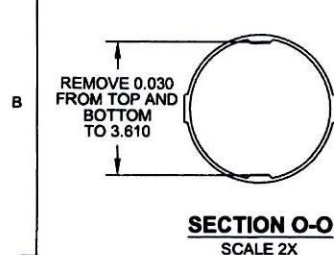
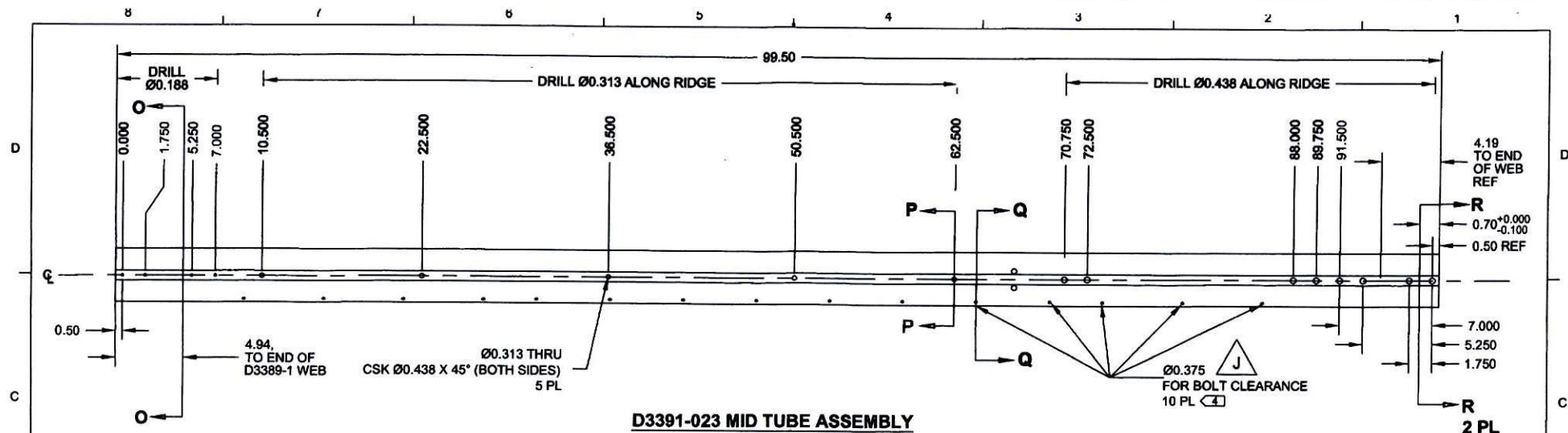


VIEW F-F
SCALE 2X

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D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY -023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

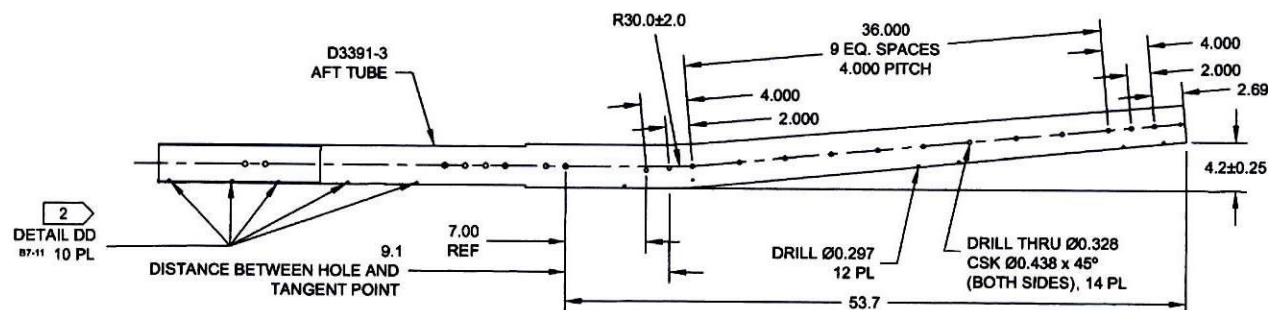
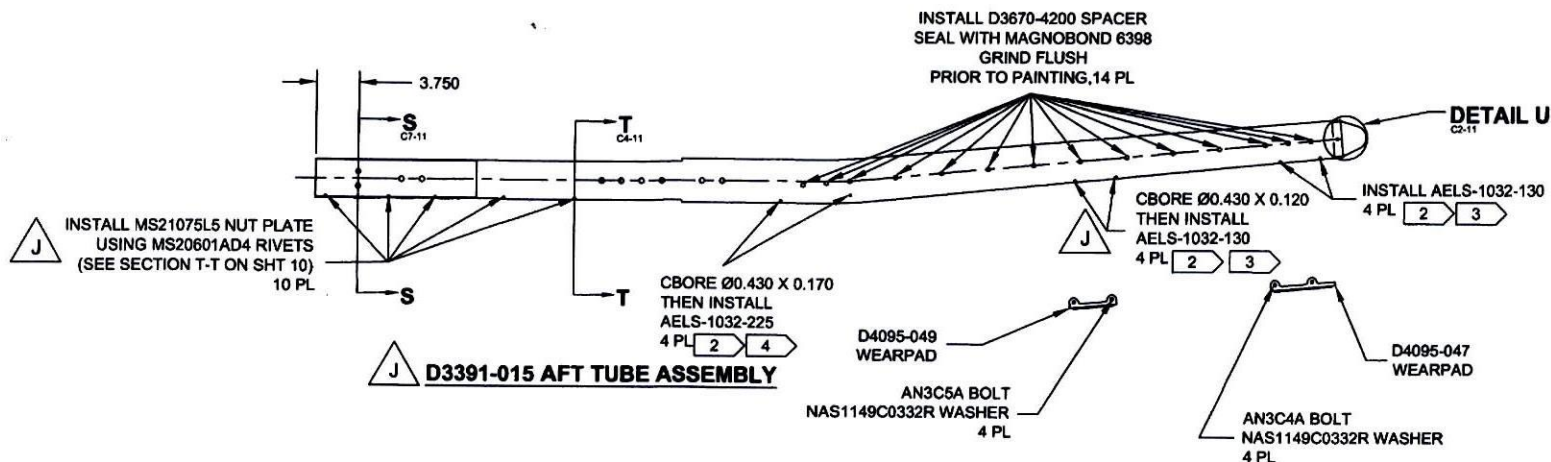


D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004
- 4) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 AND Ø0.375 HOLES FOR WEARSHOE INSERTS AND NUTPLATES. CBOR AS NOTED AND INSTALL INSERT/NUTPLATES EXCEPT WHERE INDICATED.

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D3391-015 AFT TUBE ASSEMBLY PARTS LIST

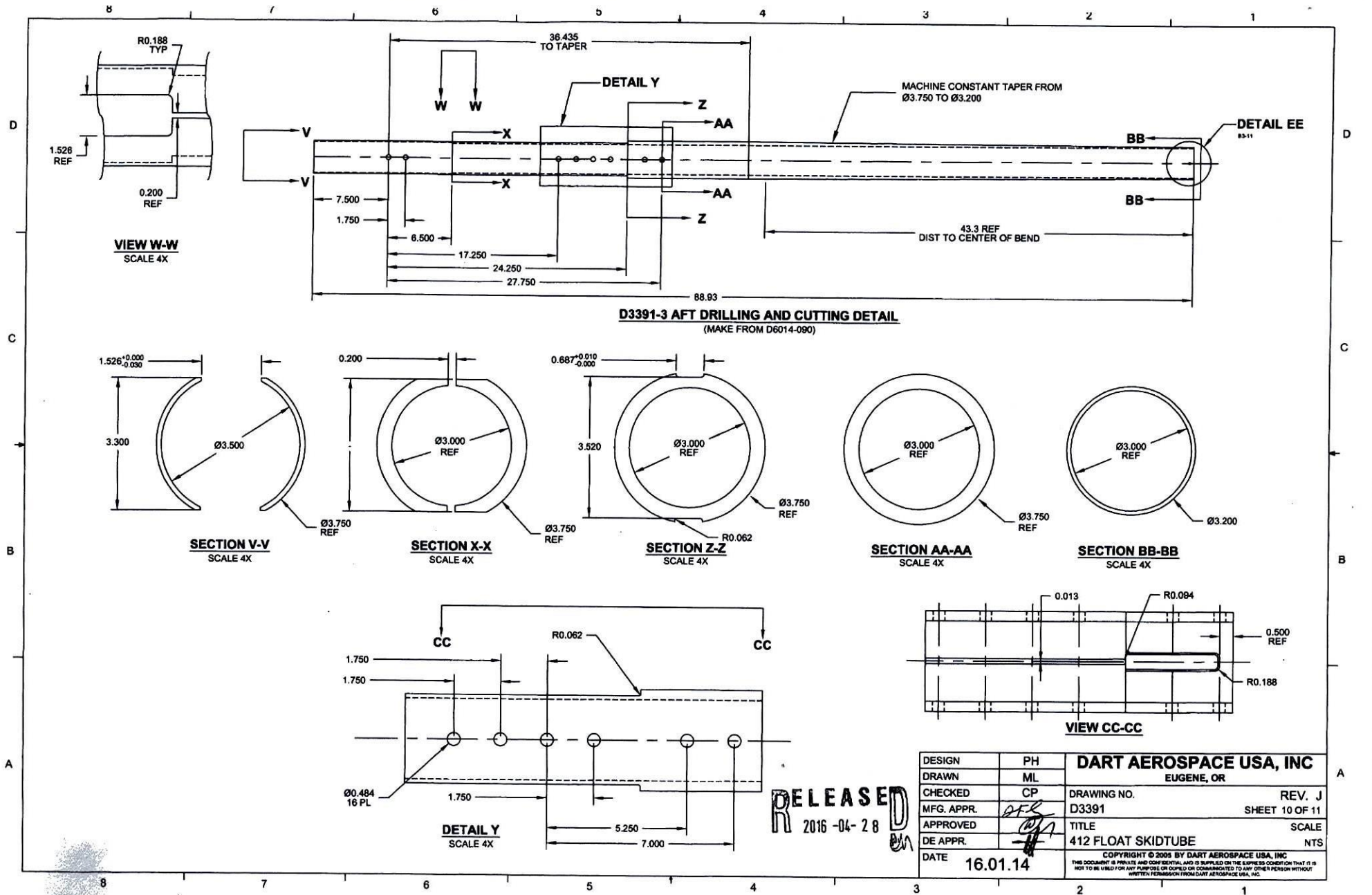
QTY	PART NUMBER	DESCRIPTION
-015		
X	D3391-015	AFT TUBE ASSEMBLY
1	D2646	AFT CAP
1	D3391-3	AFT TUBE
14	D3670-4200	SPACER
2	D3672-1	WASHER
1	D4095-049	WEARPAD
1	D4095-047	WEARPAD
8	AELS-1032-130	INSERT
4	AELS-1032-225	INSERT
4	ALS4-428-165	INSERT
6	AN3C4A	BOLT
4	AN3C5A	BOLT
20	MS20601AD4	RIVET, BLIND
10	MS21075L5	NUT PLATE, FLOATING
10	NAS1149C0332R	WASHER

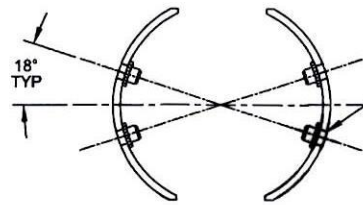
NOTES:

- 1) COAT ALL EXPOSED FASTENERS WITH LPS "LPS PROCYON"
- 2) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 AND Ø0.375 HOLES FOR WEARSHOE INSERTS AND NUTPLATES. CBORE AS NOTED AND INSTALL INSERT/NUTPLATES EXCEPT WHERE INDICATED.
- 3) ENSURE WALL THICKNESS IS BETWEEN 0.070 AND 0.130 BEFORE INSTALLING INSERT
- 4) ENSURE WALL THICKNESS IS BETWEEN 0.130 AND 0.225 BEFORE INSTALLING INSERT

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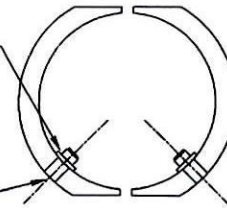
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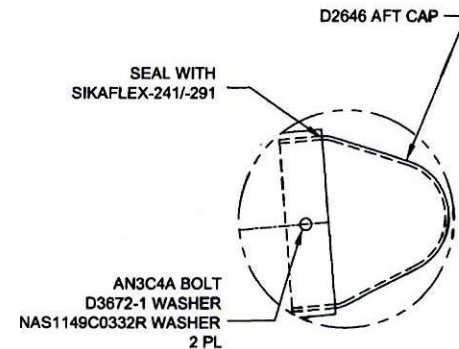


SECTION S-S
SCALE 5X

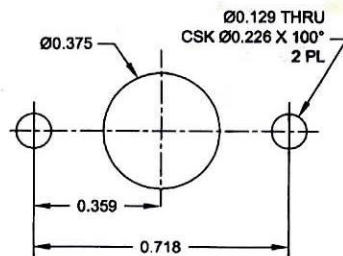
MS21075L5 NUTPLATE REF
DRILL Ø0.391
CBORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT
4 PL
USE DT8217 DRILL TEMPLATE
TO LOCATE HOLES AND OPEN
TO Ø0.375



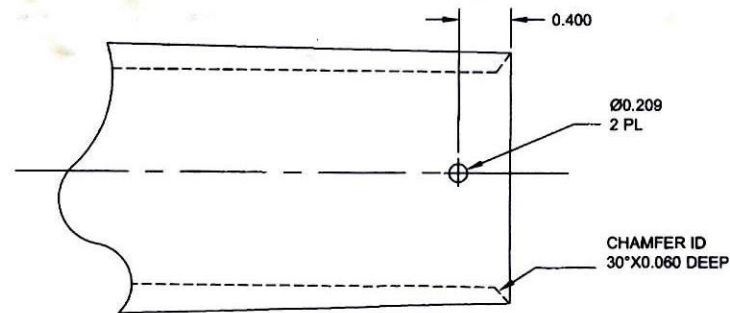
SECTION T-T
SCALE 5X
5 PL



DETAIL U
SCALE 5X



DRILLING DETAIL DD
SCALE 10X



DETAIL EE
SCALE 2X

NOTES:
1) USE INDUSTRY STANDARD NUT PLATE DRILL JIG IF REQUIRED.

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040046**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO040046
PO Date: 5/30/18
Due Date: 5/30/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176039	D3391-021	Fwd Tube Assembly	Firmed	5/30/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176040			Firmed	5/30/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
Sub Total:						2	0	2		\$250.00
2	175483	D3391-025	Aft Tube Assembly	Firmed	5/30/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
	176047			Firmed	5/30/18	1 pcs	0 pcs	1 pcs	\$125.00/pcs	\$125.00
Sub Total:						2	0	2		\$250.00
Grand Total:										\$500.00

Order Notes

reid At 19/05/30

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

CL

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